IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Letters Patent of:
Yuichi Kawaguchi et al.

Patent No.: 7,127,614

Issued: October 24, 2006

For: JUSTIFICATION AUTHENTICATING
     SYSTEM, PERSONAL CERTIFICATE
     ISSUING SYSTEM, AND PERSONAL
     CERTIFICATE

REQUEST FOR CERTIFICATE OF CORRECTION
PURSUANT TO 37 CFR 1.322

Attention: Certificate of Correction Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Upon reviewing the above-identified patent, Patentee noted typographical errors which should be corrected. A listing of the errors to be corrected is attached.

The typographical errors marked with a "P" on the attached list are not in the application as filed by applicant. Also given on the attached list are the documents from the file history of the subject patent where the correct data can be found.

The errors now sought to be corrected are inadvertent typographical errors the correction of which does not involve new matter or require reexamination.

Transmitted herewith is a proposed Certificate of Correction effecting such corrections. Patentee respectfully solicits the granting of the requested Certificate of Correction.

The Commissioner is authorized to charge any deficiency of up to $300.00 or credit any excess in this fee to Deposit Account No. 04-0100.

Dated: February 22, 2007   Respectfully submitted,

By_____

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page _1_ of _1_

PATENT NO.   :   7,127,614

APPLICATION NO. :   09/885,736

ISSUE DATE   :   October 24, 2006

INVENTOR(S)   :   Yuichi Kawaguchi et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

First Page Col. 1 (Inventors); Line 3; After "Tsumori," delete "Dogaki" and

insert - - Oogaki - -, therefor.

First Page Col. 2 (foreign patent Documents); Line 4; After "JP 10275203 10/1998"
insert - - 17/00 - -.

Column 8; Line 47; In Claim 4, after "read" delete "means" and insert - - unit - -, therefor.

Column 10; Line 7; In Claim 10, after "claim 8" insert - - , - -.

Column 10; Line 12; In Claim 10, after "read" delete "means" and insert - - unit - -, therefor.

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Note: **P** = PTO Error   **A** = Applicant Error

US Serial No.: **09/885,736**   US Patent No.: **US 7,127,614 B2**   Issue Dt.: **Oct. 24, 2006**
Title: **JUSTIFICATION AUTHENTICATING SYSTEM, PERSONAL CERTIFICATE ISSUING SYSTEM, AND PERSONAL CERTIFICATE**
Proofing Instructions: **Face Page, Claims and Abstract**

Sr. No.	P/A	Original		Issued Patent		Description Of Error
		Page	**Line**	**Column**	**Line**	
1	P	Page 1 Request for Corrected Filing Receipt (09/17/2001)	5 (Request For Corrected Filing Receipt)	First Page Col. 1 (Inventors)	3	After "Tsumori," delete "Dogaki" and insert - - Oogaki - -, therefor.
2	P	Sheet 1 of 1 List of References cited by applicant and considered by examiner (03/03/2006)	Entry 1 (Foreign Patent Documents)	First Page Col. 2 (Foreign Patent Documents)	4	After "JP 10275203 10/1998" insert - - 17/00 - -.
3	P	Page 3 Claims (10/27/2005)	Claim 4 Line 5	8	47	In Claim 4, after "read" delete "means" and insert - - unit - -, therefor.
4	P	Page 5 Claims (10/27/2005)	Claim 11 Line 1	10	7	In Claim 10, after "claim 8" insert - - , - -.
5	P	Page 6 Claims (10/27/2005)	Claim 11 Line 3	10	12	In Claim 10, after "read" delete "means" and insert - - unit - -, therefor.

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US 7,127,614 B2

(12) **United States Patent**
Kawaguchi et al.

(10) **Patent No.:** US 7,127,614 B2
(45) **Date of Patent:** Oct. 24, 2006

(54) **JUSTIFICATION AUTHENTICATING SYSTEM, PERSONAL CERTIFICATE ISSUING SYSTEM, AND PERSONAL CERTIFICATE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 836 days.

(21) Appl. No.: **09/885,736**

(22) Filed: **Jun. 20, 2001**

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(30) **Foreign Application Priority Data**

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(51) **Int. Cl.**
H04L 9/00 (2006.01)
(52) **U.S. Cl.** 713/176; 713/156; 713/175; 713/186
(58) **Field of Classification Search** 713/176
See application file for complete search history.

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(57)   **ABSTRACT**

A justification/authentication personal certificate system stores in a remote database a counterpart of an identifier and a digital watermark contained in the personal certificate. The personal certificate includes the digital watermark embedded in an authentic image such as a facial photograph, a retinal scan, or a fingerprint. When the personal certificate is used, the authentic image is read from the personal certificate, and the digital watermark information is extracted. The digital watermark information and the identifier are compared with the counterparts stored in the database. If the extracted digital watermark information is identical to the information in the database, then the personal certificate is judged to be unjustifiable. In one embodiment, at least one of the identifier and digital watermark are changed each time the system justifies the personal certificate.

12 Claims, 5 Drawing Sheets
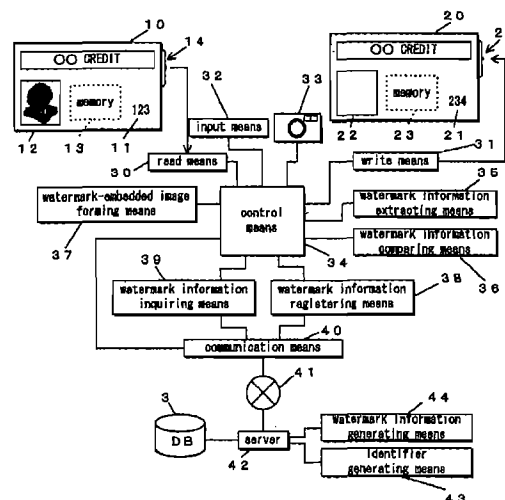
Thereafter, at step **21**, the read means **30** reads the authentic image that is stored in the memory **13** and in which digital watermark information is surely embedded, through the input-output port **14**.

Thereafter, at step **22**, the control means **34** transmits the obtained authentic image to the watermark information extracting means **35**, and causes the extracting means **35** to extract watermark information from the authentic image. If this extraction fails (step **23**), the control means **34** judges that the personal certificate **10** is unjustifiable (step **24**), and terminates the processing.

On the other hand, if the extraction of the watermark information succeeds, the control means **34** connects to the server **42** through the communication means **40** (step **25**).

The control means **34** transmits the identifier **11** that has been read from the personal certificate to the watermark information inquiring means **39**, and causes the inquiring means **39** to acquire the watermark information corresponding to the identifier **11** (step **26**).

When receiving this inquiry, the server **42** retrieves the watermark information corresponding to the identifier in the database **3**. If the watermark information is not found, the server **42** sends a message that the corresponding information is not found. If the watermark information is found, the server **42** returns the found watermark information to the control means **34** (step **27**).

When the control means **34** receives the information from the server **42**, the control means **34** releases the connection (step **28**). If the control means **34** receives the message that the watermark information is not found (step **29**), it is judged that the personal certificate **10** is unjustifiable (step **24**), and the processing is terminated.

On the other hand, when receiving the watermark information, the control means **34** transmits the watermark information extracted by the watermark information extracting means **35** and the watermark information received from the server **42** at this time to the watermark information comparing means **36** for a comparison. If the watermark information from the two sources are found to be non-identical in the comparison made by the watermark information comparing means **36**, the control means **34** determines that the personal certificate **10** is unjustifiable (step **24**), and terminates the processing.

On the other hand, if the watermark information from the two sources are found to be identical in the comparison, the control means **34** determines that the personal certificate **10** is justifiable (step **31**), and completes the processing.

Preferably, when the watermark is judged to be justifiable, the same process as the main part of FIG. **3** is carried out once again at step **32**, and the watermark information corresponding to this identifier is updated (step **32**). As a matter of course, the update means updates both the digital watermark embedded in the authentic image of the personal certificate **10** and the digital watermark in the database **3** (note that these digital watermarks are caused to be identical). If so, the digital watermark is updated whenever the authentication process succeeds. This adds an additional defense against falsification or forgery.

As described above, in the present invention, the digital watermark embedded in the authentic image of the personal certificate does not depend only on proof by authentication equipment. Instead, it compares the digital watermark stored in the database remote from the personal certificate or the authentication equipment with the digital watermark with the digital watermark on the personal certificate. Therefore, a preventive system against falsification or against other unjustifiable use is constructed.

Having described preferred embodiments of the invention with reference to the accompanying drawings, it is to be understood that the invention is not limited to those precise embodiments, and that various changes and modifications may be effected therein by one skilled in the art without departing from the scope or spirit of the invention as defined in the appended claims.

What is claimed is:

1. A justification authenticating system comprising:
   a database for storing an identifier of a personal certificate and digital watermark information related to said identifier;
   a personal certificate containing said identifier;
   said personal certificate also containing a readable authentic image in which a digital watermark relative to said identifier is embedded;
   a read unit operable to read at least said authentic image from said personal certificate;
   a watermark information inquiring unit operable to extract digital watermark information corresponding to said identifier from said authentic image; and
   a watermark information comparing unit operable to judge whether said digital watermark information extracted by said watermark information inquiring unit from said personal certificate is identical to said watermark information stored in said database; and
   a unit operable to update said digital watermark information stored in said database and said digital watermark information embedded in said authentic image in said personal certificate each time said watermark information inquiring unit judges said digital watermark information to be justifiable.

2. The justification authenticating system of claim **1**, wherein said personal certificate includes:
   an information carrier for storing said authentic image; and
   said digital watermark is embedded in said authentic image stored in said information carrier.

3. The justification authenticating system of claim **2**, wherein said information carrier is at least one of a semiconductor memory and a magnetic recording material.

4. The justification authenticating system of claim **2**, wherein:
   said information carrier includes said authentic image being a printed authentic image affixed to said personal certificate; and
   said read means reads said printed image.

5. The justification authenticating system of claim **1**, wherein at least one of said identifier and said digital watermark information includes an element that is randomly generated.

6. The justification authenticating system of claim **1**, further comprising:
   a communication device for communicating said watermark information between said watermark information inquiring unit and said database.

7. A personal certificate issuing system comprising:
   an identifier generating unit operable to generate an identifier unique to a personal certificate;
   a watermark information generating unit operable to generate digital watermark information corresponding to said identifier;
   a database for storing said identifier of said personal certificate and said digital watermark information relative to said identifier in relation to each other;
   a watermark information registering unit operable to store said identifier generated by said identifier generating

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unit and said digital watermark information generated by said watermark information generating unit in said database;

an image input unit operable to input a raw authentic image;

a watermark-embedded image forming unit operable to form a watermark-embedded authentic image in which said digital watermark is embedded on said authentic image input by said image input unit; and

a personal certificate that readably carries said authentic image generated by said watermark-embedded image forming unit and said identifier generated by said identifier generating unit;

wherein said digital watermark information stored in said database and embedded in said authentic image of said personal certificate is update according to predetermined timing, and said predetermined timing includes each time said system correctly justifies an authentic image.

8. The personal certificate issuing system of claim **7**, wherein:

said personal certificate includes an information carrier for storing said authentic image; and

said authentic image includes a digital watermark embedded in said authentic image stored in said information carrier.

9. The personal certificate issuing system of claim **8**, wherein said information carrier is at least one of a semi-conductor memory and a magnetic material.

10. The personal certificate issuing system of claim **8** wherein:

said information carrier includes said authentic image being a printed authentic image affixed to said personal certificate; and

said read means reads said printed authentic image.

11. The personal certificate issuing system of claim **7**, wherein at least one of said identifier and said digital watermark information includes an element that is randomly generated.

12. The personal certificate issuing system of claim **7**, further comprising:

a communication device for communicating said watermark information between said watermark information inquiring unit and said database.

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